

REMARKS

Claims 47-90 are pending. Claim 47 has been amended to clarify the subject matter of that claim. Claim 68 has been amended to correct a spelling error. Claims 87-90 are new. Support for those new claims can be found, for example, in ¶ [0080]. No new matter has been added.

Claims 47-55, 71-73 and 83 were rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,537,211 (Wang).

Claim 47 is directed to an apparatus for determining a condition of a region of a tissue sample. The apparatus includes illuminating optics for illuminating the region at a first angle and for illuminating the region at a second angle. A processor is configured to determine a condition of the region using representative data selected from: a first set of spectral data corresponding to illumination incident at the first angle and a second set of spectral data corresponding to illumination incident at the second angle.

In some implementations, the claimed subject matter enables compensating for artifacts (*e.g.*, glare, shadows, visual obstructions) that may be present in one of the sets of spectral data. If, for example, one set of spectral data associated with the tissue region is adversely affected by an artifact, then the second set of spectral data obtained using light incident to the region at the second angle may be quite useful. The Wang patent does not disclose or render obvious the claimed subject matter.

The Wang patent discloses a system (*see, e.g.*, FIG. 13) that includes an endoscope 208 with: (1) illumination ports 216 that deliver white light illumination, (2) an aperture 214 that delivers UV illumination and (3) an endoscope camera 220 that is connected to a video processor 236. The system can be used to collect white light reflectance and fluorescence images sequentially for use in connection with, for example, colonoscopies. *See* col.13, lines 45-46. The white light illumination is turned off while the fluorescence images are being taken. Col. 26, lines 3-6. The fluorescence image signals 234 are processed by a video processor 236 to produce a standard video signal 238 which is digitized by a framegrabber in computer 230. The

resulting processed image signal 240 with information on the state of the observed tissue is sent to a monitor 242.

The Wang patent explains that artifacts in the fluorescence images can be removed by: (1) processing software (col. 13, lines 9-10), (2) illuminating the tissue through the two white light ports (col. 20, lines 13-15) or (3) collecting multi-spectral images at different emission wavelengths simultaneously (col. 20, lines 17-20 and col. 10, lines 32-34). The Wang patent does not disclose selecting data from a first data set obtained by illuminating tissue from a first angle and a second data set obtained by illuminating tissue from a second angle as recited in claim 47. Moreover, the Wang patent does not disclose a processor that is configured to determine a condition of a tissue region using representative data so selected, as recited in claim 47.

Claim 47 should be allowable for at least the foregoing reasons.

Claims 48-55, 71-73 and 83 depend from claim 47 and, therefore, should be allowable for at least the same reasons as claim 47.

Claims 56-61, 63-67, 74-76 and 84 also were rejected under 35 U.S.C. §102(e) as being anticipated by the Wang patent. Applicants respectfully disagree with those rejections.

Claim 56 recites an apparatus that includes illuminating optics, collecting optics and a processor. The processor is adapted to: obtain a first set of spectral data corresponding to illumination of a tissue region at a first angle, obtain a second set of spectral data corresponding to illumination of the tissue region at a second angle and determine whether the first set of spectral data is affected by an artifact based at least in part on a subset of the first set of spectral data and a subset of the second set of spectral data. In some implementations, the claimed subject matter may be helpful in compensating for artifacts (e.g., glare, shadows, visual obstructions) that may be present in the first set of spectral data. The Wang patent does not disclose or render obvious the claimed subject matter.

Indeed, none of the processors disclosed in the Wang patent determine whether a first set of spectral data is affected by an artifact based at least in part on a subset of a first set of spectral data and a subset of a second set of spectral data, where the first set is obtained with illumination at a first angle and the second set is obtained with illumination at a second angle, as recited in claim 56. As discussed above, Wang merely explains that artifacts in the fluorescence images can be removed by: (1) processing software, (2) illuminating the tissue through the two white light ports or (3) collecting multi-spectral images at different emission wavelengths simultaneously.

Claim 56 should be allowable for at least the foregoing reasons.

Claims 57-61, 63-67, 74-76 and 84 depend from claim 56 and, therefore, should be allowable for at least the same reasons as claim 56.

Claim 62 was rejected under 35 U.S.C. §103(a) as being unpatentable over the Wang patent.

Claim 62 depends from claim 56 and, therefore, should be allowable for at least the same reasons as claim 56, which are discussed above.

Claims 68, 77-79 and 85 also were rejected under 35 U.S.C. §102(e) as being anticipated by the Wang patent. Applicants respectfully disagree with those rejections.

Claim 68 recites subject matter similar to the subject matter that is discussed above with reference to claim 56. More particularly, claim 68 recites a processor adapted to: obtain a first set of reflectance spectral data collected during illumination at a first angle, obtain a second set of reflectance spectral data collected during illumination at a second angle and obtain a set of fluorescence spectral data. The processor is further adapted to determine whether any of those spectral data sets is affected by an artifact. The processor makes that determination based at least in part on: a subset of the first set of reflectance spectral data, a subset of the second set of reflectance spectral data, or a subset of the set of fluorescence spectral data.

As discussed above with reference to claim 56, the Wang patent neither discloses nor renders the claimed subject matter obvious.

Claim 68 should be allowable for at least the foregoing reasons.

Claims 77-79 and 85 depend from claim 68 and, therefore, should be allowable for at least the same reasons as claim 68.

Claims 69, 70, 80-82 and 86 also were rejected under 35 U.S.C. §102(e) as being anticipated by the Wang patent. Applicants respectfully disagree with those rejections.

Claim 69 recites subject matter similar to the subject matter discussed above with reference to claim 68. More particularly, claim 69 recites a processor adapted to: obtain a first set of reflectance spectral data corresponding to illumination of a tissue region at the first angle and obtain a second set of reflectance spectral data corresponding to illumination of the tissue region at the second angle. The processor is further adapted to determine whether at least one of the first set of reflectance data or the second set of reflectance data is affected by an artifact. The processor makes that determination based at least in part on a subset of the first set of reflectance data and a subset of the second set of reflectance data. As discussed above, Wang neither discloses nor renders obvious those features.

Additionally, the process of claim 69 is adapted to reject at least one member of the first set of reflectance data or the second set of reflectance data determined to be affected by the artifact. The processor is further adapted to determine a characteristic of the region of the tissue sample based on at least one member of at least one of the first set of reflectance data and the second set of reflectance data not rejected. Those features also are not disclosed in or obvious in view of the Wang patent.

Claim 69 should be allowable for at least the foregoing reasons.

Claims 70, 80-82 and 86 depend from claim 69 and, therefore, should be allowable for at least the same reasons as claim 69.

New claims 87-90 respectively depend from allowable claims and, therefore, should be allowable for at least the same reasons as the claims from which they respectively depend.

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

Enclosed is a Petition for Two-Month Extension of Time. The petition fee in the amount of \$460.00 and the excess claims fee in the amount of \$200.00 are being paid concurrently herewith on the Electronic Filing System (EFS) by way of Deposit Account Authorization.

Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

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William P. O'Sullivan

William P. O'Sullivan
Reg. No. 59,005

Fish & Richardson P.C.
Citigroup Center
52nd Floor
153 East 53rd Street
New York, New York 10022-4611
Telephone: (212) 765-5070
Facsimile: (212) 258-2291